

Claim Amendments

What is claimed is:

1-66 (Canceled).

67. (New). A sensor for measuring an analyte in a sample, comprising:
a solid micro optical fiber having a first end and a second end, wherein said first end and said second end have substantially the same cross-sectional area;
a reagent pad containing all the necessary chemicals and enzymes for a specified analysis, wherein said reagent pad is mounted to said first end of said solid micro optical fiber and is adapted to receive a sample; and
a detection device comprising
a light source adapted to emit light through said solid micro optical fiber onto said reagent pad,
a photo detector adapted to detect reflected light from said reagent pad through said optical fiber in response to said emitted light,
a processor adapted to convert said reflected light to said analyte concentration,
a display adapted to display said analyte concentration, and
a housing adapted to engage said second end of said optical fiber with said light source,
wherein said sensor is adapted to calculate said analyte concentration from a sample volume of about .1 microliters to about .5 microliters.
68. (New). The sensor of claim 67, wherein said solid micro optical fiber is a single fiber.
69. (New) The sensor of claim 67, wherein said solid micro optical fiber is a fiber bundle.
70. (New). The sensor of claim 67, wherein said solid micro optical fiber has a diameter of between .01 millimeters to 5.0 millimeters.
71. (New). The sensor of claim 67, wherein said solid micro optical fiber is between .1cm and 100cm in length.
72. (New). The sensor of claim 67, wherein said reagent pad is a membrane impregnated with dry chemical and enzymes.
73. (New). The sensor of claim 67, wherein said reagent pad is a cast membrane.

74. (New). The sensor of claim 67, wherein said solid micro optical fiber is made from the group consisting of glass, plastic, or a combination of glass and plastic.
75. (New). A sensor for measuring an analyte in a sample, comprising:
an elongated piece of micro plastic tubing having a first end and a second end, wherein said first end and said second end have substantially the same cross-sectional area;
a reagent pad containing all the necessary chemicals and enzymes for a specified analysis, wherein said reagent pad is mounted to said first end of said micro plastic tubing and is adapted to receive a sample; and
a detection device adapted to receive said micro plastic tubing, said detection device comprising
a light source adapted to emit light through a fiber optic probe onto said reagent pad,
a photo detector adapted to detect reflected light from said reagent pad through said fiber optic probe in response to said emitted light,
a processor adapted to convert said reflected light into said analyte concentration,
a display adapted to display said analyte concentration, and
a housing adapted to engage said second end of said fiber optic probe with said light source,
wherein said sensor is adapted to calculate said analyte concentration from a
sample volume of about .1 microliters to about .5 microliters.
76. (New). The sensor of claim 75, wherein said fiber optic probe is a single fiber.
77. (New) The sensor of claim 75, wherein said fiber optic probe is a fiber bundle.
78. (New). The sensor of claim 75, wherein said fiber optic probe has a diameter of between .01 millimeters to 5.0 millimeters.
79. (New). The sensor of claim 75, wherein said fiber optic probe is between .1 cm and 100 cm in length.
80. (New). The sensor of claim 75, wherein said reagent pad is a membrane impregnated with dry chemical and enzymes.
81. (New). The sensor of claim 75, wherein said reagent pad is a cast membrane.

82. (New). The sensor of claim 75, wherein said fiber optic probe is made from the group consisting of glass, plastic, or a combination of glass and plastic.

83. (New) The sensor of claim 75, wherein said housing has a substantial pen shape.

84. (New) The sensor of claim 75, wherein said fiber optic probe is adapted to be retractable into said detection device.

85. (New) The sensor of claim 84, wherein said fiber optic probe is adapted to assume a first position inside said detection device and a second position at least partially outside said detection device, wherein the fiber optic probe is adapted to receive said micro plastic tubing when in said second position.